REMARKS

Claims 15-25 remain pending in this application. No claim has been amended by this response.

The Examiner has rejected the claims under 35 U.S.C. § 103 as being unpatentable over Demarest (US 6,361,752) in view of Vieira (US 6,563,091), with or without certain additional secondary references. This is a new grounds of rejection not previously cited in the prior Office Action. This new ground of rejection is respectfully traversed.

The Examiner states in the Office Action that it would have been obvious to one of ordinary skill in the art to adapt Demarest (in view of Vieira) with a second resistor to provide for a rapid and substantially instant increase in the evaporation and diffusion of the active substances, so that the fan is switched on with the activation of the heaters to provide and increase the air stream.

The Applicant respectfully disagrees with the Examiner, because neither Demarest nor Vieira discloses or suggests an evaporation device in which a fan is connected or accelerated at the same time that a second heating resistor is powered when the device is switched on in a boost operation mode.

Demarest describes an apparatus for volatilizing a chemical into the environment, which comprises an electric motor with a rotor and a coil, such that an electric current applied to the coil causes rotation of the rotor and the coil is thereby heated (col. 1, l. 40-45). The heat emitted by the coil is used as a heat source to volatize the volatile material (col. 8, l. 12-13 and 18-19; claim 1).

As recognized by the Examiner, Demarest is silent as to a single electric button or to a boost operation mode. In Demarest, the heating resistor and the fan are permanently connected together because the heating resistor is the coil of the motor that operates the fan. Thus, it is not possible to see the fan as an element that can be connected or disconnected independently of the coil.

Vieira describes an evaporation device where the degree of evaporation is adjusted by switching between different heating capacities so that the heating capacity is modified.

The Examiner states that it would have been obvious in view of the combination of both references to provide a second heating resistor in the device of Demarest with a fan that is switched on with the activation of the heaters.

However, in Demarest, the fan is permanently connected, and Vieira is silent as to the use of a fan.

If a person skilled in the art would have attempted to combine the teachings of these references without the exercise of inventive skill, he or she would have implemented an evaporation device having a first heating resistor (the coil of the rotor) and a fan permanently rotating at constant speed as long as the device is connected to the electric mains. Then, the skilled person based on the information provided by Vieira, would have added a second heating resistor operated by a switch so that when the user wants more intensity in the evaporation, he would connect the second resistor. However, the fan will always be rotating at constant speed regardless of the connection of the second resistor.

Such a device might not work properly because the increase in the wick temperature without increasing at the same time the flow of air can cause deterioration of the volatile substances.

In contrast, Claim 15 of the present application includes the feature that a second heating resistor and the speed of the fan are operated (at the same time) by the connection of an electric push button. Consequently, in the claimed device, there is a simultaneous increase in the amount of heat emitted and an increase in the flow of air. This feature is not disclosed or suggested by the cited references.

It is respectfully believed that a person skilled in the art would not have arrived at the claimed solution in an obvious manner merely by combining the cited references,

since neither reference teaches or suggests the use of a fan as part of the means for implementing the boost operation mode.

In order to do so, the skilled person would have needed to connect the fan to the electric push button so that the fan and the second heating resistor can be operated by the push button independently of the first heating resistor (the coil). However, this is not possible to do with Demarest because the fan of Demarest needs the coil to rotate.

Alternatively, the coil of the motor that operates the Demarest fan could be connected to the push button together with the second heating resistor, but then there would be no boost effect because all three elements would be activated at the same time.

There would have been no motivation or reason for the skilled person to look for further solutions after reading Demarest, because Demarest is related to a problem completely different from the present invention, so that the skilled person would not receive any hints to combine Demarest with Vieira. In fact, it appears that Demarest actually teaches away from the present invention, because at col. 8, ll. 25-28 of Demarest, it is stated that a separate heating element is not required because the motor coils are used as heating elements.

As explained in the response to the previous Office Action, the technical problem being addressed by the present invention may be regarded as how to provide a boost operation mode in an evaporation device in such a way that the increase in the amount of heat applied to the wick will not deteriorate the properties of the volatile substance, and at the same time result in an immediate perception by the user of an increase in the effect of the fragrance.

However, Demarest is focused on the construction of a nutating motor for an evaporation device (*see* Summary and Detailed Description).

Both Demarest and Vieira are not aware of the problems associated with the degradation of the volatile substance. In devices without a fan (such as Vieira), the

evaporation rate is controlled exclusively by controlling the wick temperature, but an excessive increase in the wick temperature alters the composition of the chemicals (distillation phenomenon where the most volatile components of the fragrance evaporate more quickly than the less volatile components). In a device like Vieira only a reduced amount of heat can be applied to the wick if degradation of the fragrance is to be avoided, so that the boost operation (if any) will be noted very slowly.

Since the cited references are silent as to the degradation problem, providing a solution to that problem as defined in Claim 15 necessarily involves an inventive step not taught or suggested by the references.

The effects of combining additional heat with an acceleration in the speed of the fan, can be observed in the experimental test data described in the Declaration of Dr. Cedric Morhain, submitted concurrently herewith. For this purpose, the effect of the fan has been tested independently from the boost heating effect, although in the boost effect defined in the independent claim the acceleration of the fan is simultaneous to the boost effect. The Declaration of Dr. Morhain and the test data presented therein were necessitated by the new ground of rejection cited by the Examiner in the Office Action.

In the diagram attached to the Morhain Declaration, the wick temperature has been indicated in four particular combinations of the status of the boost mode and the fan. In each case, as explained by Dr. Morhain, the working temperature of the heater is low when the boost switch is opened and is high when the boost switch is closed.

- Condition 1.1 - Boost switch (disconnected) and fan stopped. This situation corresponds to the normal operation of the device, wherein the wick temperature is 74°C.

- Condition 1.2 – Boost switch (connected) and fan working at 12 volts (2300 rpm), wick temperature 49°C. The boost mode is activated so that an additional amount of heat is emitted and the fan is accelerated. Even if there is an increase in the heat emitted towards the wick, the wick temperature falls (even below the temperature at normal operation) due to the flow of air through the wick.

- Condition 1.3 – Boost switch (connected) and fan working at 8 volts (2000 rpm), wick temperature 71°C. The wick temperature is increased because the flow of air through the wick is decreased.

- Condition 1.4 – Boost switch closed and fan stopped. The wick temperature is increased even more because the flow of air is stopped. The wick temperature reaches 120°C and under this condition the volatile substance and even the wick deteriorate quickly. This condition corresponds to the device described in Vieira or in the device obtained by the combination of Demarest and Vieira.

- Condition 1.5 – Boost switch closed and fan working at 6 volts (1300 rpm). Wick temperature 91.5°C. Again, the connection of the fan causes the wick temperature to fall.

From the above experimental results, it is clear that the airflow has a great impact on the wick temperature.

None of the cited references is aware of the above-described technical problem, and for that reason, they cannot guide the skilled person to arrive at the claimed solution in an obvious manner.

In the invention described in Claim 15, the above problem is solved by combining the effect of an additional heating resistor and the speed of a fan arranged to provide airflow across the evaporation area of the wick.

Finally, it should be noted that the embodiments shown in Fig. 2 and 5 of Demarest use a substance carrier different than a wick, and as such, they cannot be regarded as relevant with respect to Claim 15. In the embodiment of Fig. 7, the fan is arranged so as to avoid influence at the upper end of the wick, contrary to what is being claimed.

Because the invention is new and unobvious, and because new and unobvious features of the invention have been specifically set forth in the claims, and because the

references do not suggest those new and unobvious features, reconsideration and allowance of the claims are requested.

Applicant submits for the foregoing reasons that this response should be entered and that with such entry the application is now in condition for allowance.

Applicants have included a check in the amount of $120.00 to cover the extension fees required by this Amendment. However, if any additional fees are due, please charge our Deposit Account No. 06-2425. A duplicate copy of this paper is enclosed.

Should the Examiner have any questions concerning this Amendment, Applicants request the Examiner to contact the Applicants' attorney, Craig Bailey, at (310) 824-5555.

Respectfully submitted,

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